

WHAT IS CLAIMED IS:

1. A head-protecting airbag device for a vehicle comprising an airbag folded and housed in the upper edge of windows inside a vehicle, and deployable downward along the windows when fed with inflation gas, wherein:

the airbag includes:

a gas admissive portion, which is inflatable with inflation gas by separating a vehicle's inner wall and an outer wall of the airbag; and

a non-admissive portion, which is formed by joining the vehicle's inner wall and outer wall and admits no inflation gas;

the gas admissive portion includes:

a gas feed passage extending along the upper edge of the airbag as flatly expanded for feeding inflation gas along front-rear direction; and

a plurality of vertical chambers juxtaposed along the front-rear direction of the vehicle, each of the vertical chambers being provided at upper end thereof with a communication port for communicating with the gas feed passage; and

a gas flow regulating means is located in at least one of the vertical chambers, whereby, when inflation gas flows into the vertical chamber via the communication port, the

inflation gas is directed obliquely down and toward the vehicle's exterior.

2. The head-protecting airbag device according to claim 1, wherein:

substantial length of the vehicle's outer wall and substantial length of the inner wall are differentiated from each other in the gas feed passage in the periphery of the communication port of the at least one vertical chamber; and

the difference of the lengths of the vehicle's outer and inner walls constitutes the gas flow regulating means.

3. The head-protecting airbag device according to claim 1, wherein:

the airbag includes a flexible belt in an exterior side thereof, the belt being joined to the vicinity of the at least one vertical chamber and to a vehicle body in the vicinity of a housing position of the airbag, whereby the vertical chamber, when inflated, is pressed toward the window; and

the belt constitutes the gas flow regulating means.

4. The head-protecting airbag device according to claim 1, wherein:

the gas admissive portion includes an auxiliary chamber located above the gas feed passage for, upon airbag deployment,

inflating between a panel as part of the vehicle body and an airbag cover in the vicinity of the housing position of the airbag, the airbag cover being openably covering an airbag side toward the vehicle's interior; and

the auxiliary chamber constitutes the gas flow regulating means.

5. The head-protecting airbag device according to claim 4, wherein the auxiliary chamber is located in plurality, respectively above predetermined numbers of the vertical chambers.

6. The head-protecting airbag device according to claim 5, wherein the opening dimension of each of the auxiliary chambers in the front-rear direction and the opening dimension of the communication port located below the auxiliary chamber in the front-rear direction are equal to each other.

7. The head-protecting airbag device according to either one of claim 4 to claim 6, wherein the airbag includes a mounting portion for attachment to the panel of vehicle body, the mounting portion being located, when the airbag is completely inflated, below the upper end of the auxiliary chamber and above the vertical chamber.

8. The head-protecting airbag device according to claim 5, wherein:

the airbag includes a secondary chamber inflatable below the gas feed passage, the secondary chamber not being communicated with the gas feed passage at upper end thereof;

the vertical chambers having the auxiliary chambers thereabove are located in both front and rear of the secondary chamber; and

the secondary chamber is communicated with lower part of at least one of the front and rear vertical chambers, whereby inflation gas flows into the secondary chamber.

9. The head-protecting airbag device according to claim 1, wherein:

the gas admissive portion includes a joining inflatable portion located between the gas feed passage and the vertical chambers for, upon airbag deployment, inflating between a panel as part of the vehicle body and an airbag cover in the vicinity of the housing position of the airbag, the airbag cover being openably covering an airbag side toward the vehicle's interior; and

the joining inflatable portion constitutes the gas flow regulating means.

10. The head-protecting airbag device according to claim 1,

wherein:

a holder is located proximate to the housing position of the airbag for holding and fixing the periphery of the communication port of at least one of the vertical chambers upon airbag deployment; and

the holder constitutes the gas flow regulating means.

11. The head-protecting airbag device according to claim 1, wherein:

a part of the airbag cover openeably covering an airbag side toward the vehicle's interior in the vicinity of the housing position of the airbag is suppressed from opening toward the vehicle's interior than remaining part of the airbag cover, whereby at least one of the vertical chambers deploys while being pressed toward the vehicle's exterior; and

the part of the airbag cover suppressed from opening constitutes the gas flow regulating means.